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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,021	06/15/2001	Yingqiu Jiang	1101.015	9701
7590 05/18/2004				
Yingqiu Jiang 1219 Paplan Avenue Apt. 203 Sunnyvale, CA 94086		EXAMINER NGUYEN, THANH T		
		ART UNIT PAPER NUMBER		
		2813		

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/883,021

Applicant(s)

JIANG ET AL.

Examiner

Thanh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspond nc address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2/27/02 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-7, 9-31 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Faris (U.S. Patent No. 5,221,982).

Referring to figures 4a-16, Faris teaches a reflective liquid crystal display comprising:

A cholesteric liquid crystal polarizing device (52a, see col. 6, lines 27-44) including at multiple domains (74/75/76, see col. 7, lines 22-34), each of the multiples domains (74/75/76) skewed at a random angle relative to each other domain (see col. 8, lines 30-38), a liquid crystal cell (136/131), and an internal quarter-wave retarder (134/135, see col. 8, lines 25-27, figure 4d), the cholesteric liquid crystal polarizing device, the liquid crystal cell, and the quarter-wave retarder being super posed with one another (see figure 9a). The cholesteric liquid crystal

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polarizing device includes a plurality of pixel region are arranged in a repeating array of red pixels, green pixels and blue pixels reflecting circularly polarized red light, the green pixels reflecting circularly polarized green light, the blue pixels reflecting circularly polarized blue light (see col. 8, lines 47-67, col. 9, lines 1-26).

Regarding to claims 2, 28, white mode device (see col. 10, lines 10-14).

Regarding to claims 3, 29, black mode device (see col. 10, lines 25-27).

Regarding to claims 4, 16 thin film transistor (147), having plurality of pixel regions (see col. 10, lines 17-22).

Regarding to claim 5, cholesteric liquid crystal polarizing device includes a plurality of pixel regions (see claim 16).

Regarding to claim 6, see figure 9, and related text.

Regarding to claim 7, 1-17, 24-26, see col. 10, lines 17-20, and claim 16.

Regarding to claim 9, see abstract.

Regarding to claim 10, see col. 8, lines 47-67, col. 9, lines 1-26.

Regarding to claims 11-12, 18-19, 30, (see col. 11, lines 52-60, and claim 16).

Regarding to claims 13, 15, 27, linear polarizer (61, see figure 1d), and an absorbing medium (9, see col. 10, lines 25-27).

Regarding to claim 14, monochromatic display (see col. 6, lines 40-44).

Regarding to claims 20-23, see figure 4d, and related text.

Regarding to claim 31, alignment layer (146).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willett et al. (U.S. Patent No. 5,325,218) in view of Wu et al. (U.S. Patent No. 5,661,533).

Referring to figure 2, Willett et al. teaches a reflective liquid crystal display comprising:

A cholesteric liquid crystal polarizing device (12a, see col. 3, lines 30-37) including at least one multiple domain structure (see col. 4, lines 3-6), a liquid crystal cell (20), and an internal quarter-wave retarder (30), the cholesteric liquid crystal polarizing device, the liquid crystal cell, and the quarter-wave retarder being super posed with one another. The cholesteric liquid crystal polarizing device includes a plurality of pixel region are arranged in a repeating array of red pixels, green pixels and blue pixels reflecting circularly polarized red light, the green pixels reflecting circularly polarized green light, the blue pixels reflecting circularly polarized blue light (see col. 3, lines 30-45, col. 4, lines 23-33 and claim 1).

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However, the reference does not teach reflective liquid crystal display includes each domains skewed at a random angle relative to each other domain, normally white, black mode device, liquid crystal cell is disposed adjacent to a tin film transistor array having a plurality of pixel regions, forming an alignment layer.

Wu et al. teaches each domains skewed at a random angle relative to each other domain (see claim 5).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would provide each domains skewed at a random angle relative to each other domain in process of Willet et al. as taught by Wu et al. because the process would provide ultra fast response.

It is known in the LCD art to have the normally white mode in which there is low attenuation in the absence of an applied field and a normally black mode in which there is high attenuation in the absence of an applied field. The thin film transistor array having a plurality of pixel regions would prevent cross talk. It is also known in the art to form an alignment layer in LCD to prevent misalign.

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would form reflective liquid crystal display includes a normally white, black mode device, liquid crystal cell is disposed adjacent to a tin film transistor array having a plurality of pixel regions, forming an alignment layer in the Willet process because the process is known in the LCD art.

### ***Conclusion***

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (571) 272-1695, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached on (571) 272-1702. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956 (See **MPEP 203.08**).

  
Thanh Nguyen  
Patent Examiner